



## **Management Information System in the Educational Process**

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**Abstract:** The study investigated the role of management information systems in education (MIS) in the normal educational process. The study is library-based, therefore it focused mainly on the review of the key concepts under the following sub-headings: information, information systems, education, information management, and management information systems (MIS). The study also examined the components and resources of the information system and functions of management information systems in education, the role of management information systems in the process of education, and the requirements of management information systems in education. Furthermore, the study looked at the challenges of MIS in education, criteria for effective education management information systems, and the importance of management in the process of education. It also looked at information systems and the issue of manual versus computer-based MIS. The study concluded that MIS is the lifeblood of any educational institution because it's a process of information sorting, acceptance, storage, utilisation management, and retrieval for the purpose of successful educational administration in any society. Therefore, it was recommended that both public and private schools should be encouraged to be committed to seeking organised information before taking decisions with regards to teaching, learning, and administration. Today's educational managers should adopt a management information system in education to prevent being outdated with only marginally relevant facts rather than being presented with concrete and absolutely useful information. Finally, all the schools should adopt the computer-based management information system for a more competent academic outcome and to be in line with the world's best educational practices with regards to ICT.

**Keywords:** Management, Information, System, Education

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## **INTRODUCTION**

Education is a process that involves: Teaching, training, acculturation, indoctrination, knowledge transfer, discipline, instruction, skills acquisition, command, guide, nurture as well as change, lifelong experiences. It is on this ground that Eze Rock (2012) observed that education is a multi faceted programmed process which culminates in character transformation or behavioral change. Similarly, Nnachi (2015) said that: for education to have achieved its objectives, learning must take place, and for learning to have taken place, the child must manifest a relatively enduring permanent change in behavior. Effective education policymaking in Nigeria requires information about the inputs, resources, governance, operations, and outcomes of its education system. An education management information system (EMIS) provides systematic, quality data in a structured environment that enables utilization of the information produced in planning and policy dialogue. Education Management Information Systems aims at helping countries improve data collection, data and system management, and data use in decision-making, thereby

improving different elements of the education system and contributing to the end goal of improving learning for all children and youth, Dike (2017).

Management information system in education (MISE) also called education management information system (EMIS) provides knowledge to education stakeholders about the status of the education system as a whole and the learning outcomes within a country, state or locality. By using an EMIS, governments are able to analyze and utilize data to improve their education systems. When implemented effectively, an EMIS can also potentially support both management and planning by principals and administrators, as well as teaching and learning in the classroom. AnEMIS helps generate several valued-added components to improve educational quality, including quality data, efficient expenditures, institutionalized data systems, enhanced management practices, data-driven policies, smart investments, and targeted instruction zoikoczy, (1981).The focus of this paper is the application of management information system in the educational sector (MIS). It therefore must be emphasized that MIS is a sub-system of information systems. It must be properly spelt out that the key goal of EMIS is assessment, storage and dissemination of data (information) for adequate decision making in the educational sector.

**CONCEPTUAL FRAMEWORK:** Here the writers will try to briefly but reasonably explain the concepts as they were used in the work, viz: management, information system, and education

**CONCEPT OF MANAGEMENT:** Management information system is a system consisting of people, machines, procedures, databases and data models, as its elements. Zoikoczy,(1981) observed that: The system gathers data from the internal and external sources of an educational institution. Management information system is an acronym of three words, viz., Management, information, system in order to fully understand the term MIS, let us try to understand these three words, (Mass, 1982).

Management is seen as the art of getting things done through and with the people in formally organized groups. Managerial function:Planning Organizing Staffing Directing and Controlling strategic management (top management) management control(middle management) operational control(bottom management). Okunamiri (2010) saw the term management as the scientific or systematic utilization of available human and material resources available in an organization to achieve organizational set goals and objectives. To manage implies to be successful within the available socio-economic resources.

In an educational institution like Ignatius Ajuru University of Education Rumuolumeni, management might imply the ability of the institutional managers to utilize all available natural (Arable-land, trees, rivers and streams, soil, sun, rain, etc)and human resources (staff, students, preachers, the ruling government, non-academic staff, host community leaders and dwellers etc), to achieve optimal development, academic excellence and competent institutional goal attainment. This is why Mandah (2016) sees educational institutional administrators and school heads as managers who ought to be technologically equipped to be able to manage adequately for competency and objectivity. He also saw the school as an organization, staff as managers and students as consumers while the information or lesson content is the commodity being traded here.

**CONCEPT OF INFORMATION:** Information is a basic resource like materials, moneyand personnel. Information can be considered either as an abstract concept(ideas) or as a commodity, usually in the form of letters and reports. Essentially, therefore, information has become a critical resource, just like energy, both of which are vital to the wellbeing of individuals and organizations in the modern world. Like energy and politics, technology is changing the ways in which information is captured, processed, stored, disseminated and used. Information, therefore, like any other resource in an organization, should be properly managed to ensure its cost-effective use. It is an ingredient that is vital to good management and if properly managed, should rank in importance with the organization's personnel, material and financial resources. In an organizational context, it is increasingly being recognized as a resource independent of the

technology used in manipulating it. The implication of this realization is the further recognition that information is the cohesive element that holds an organization together. Information is an unusual commodity, quite unlike most physical goods or consumer durables, Mangal and Mangal (2009).

Zorkoczy (1981) defines information “as the meaning that a human expresses by, or extracts from, representations of facts and ideas, by means of the known conventions of the representations used”. This definition includes the word “meaning” which is just as intangible and elusive as “information”. Stonecash (1981) also defines information by stating that “information is simply symbols(data, text, images, voices, etc.) that convey meaning through their relative ordering, timing, shape, context, etc. … information is the raw material for making decisions for creating knowledge and fuelling the modern organization”. As a concept, information has always connoted different meanings to various information professionals, depending on what side of the information profession they belong. Elliss (1986) rightly observes that “the data processing manager might conceive it in terms of data, the records manager in terms of records and reports, the librarian or information scientist in terms of documents or other materials”.

There are three major information worlds which have traditionally been divided and separated. The first is **the literature world** of libraries and archives, where information has been put into recorded form. The second is **the document world** of information centers and record centers, where information has been collected and organized but perhaps not seriously evaluated in the same sense as in the literature world. The third information world is **the data world** of computers, telecommunications and automated information systems where the information is often numerical or structured (David, 1982).

Two key variables distinguish the three categories: “time frame” and “storage medium”. Information professionals can no longer claim ignorance of generic information. The perception of a generic similarity in terms of roles and perceptions of information has been summed up as “records, words, data … whatever you call it, it’s still information”(Mass, 1982). Getz (1982) insists that Information is data that is processed and is presented in a form which assists decision-making.it may contain an element of surprise, reduce uncertainty or provoke a manager to initiate an action. Data usually take the form of historical records. In contrast to information, raw data may not be able to surprise us, may not be organized and may not add anything to our knowledge.

**Types of information:** Information could be classified on the basis of the purpose for which it is utilized, into three main categories: **Strategic information:** it is required by the managers at the strategic level of management for the formulation of organizational strategies. **Tactical information:** information in this category is used in short term planning and is of use at management control level. **Operational information:** it applies to short periods which may vary from an hour to a few days.

**CONCEPT AND NATURE OF INFORMATION SYSTEM:** Information systems are becoming of ever greater interest in progressive and dynamic organizations. Achuonye and Ajoku (2002) posited that; the need to obtain data and information conveniently, quickly and economically makes it imperative to devise procedures for the creation, management and utilization of databases in educational institutions.

Simply put, an information system is a system for accepting data/information as a raw material and through one or more transmutation processes, generating information as a product. It comprises the following functional elements which relate to the organization and its environments: Perception – initial entry of data whether captured or generated, into the organization; Recording – physical capture of data; Processing – transformation according to the “specific” needs of the organization; Transmission– the flows which occur in an information system; Storage – presupposes some expected future use; Retrieval – search for recorded data; Presentation – reporting, communication; and Decision making, Shim, (2000). Whatever way

one looks at an information system, it is generally expected to provide not only a confrontation between the user and information, but also, the interaction required for relevant and timely decision making. Its main purpose is to satisfy users' information needs. In the field of education, MIS is vital for acquiring or gathering, processing, storing and reproducing data as information for the use of the school, students and teachers.

Dike, (2017), seeing information systems in an educational approach shows that it is a sub-system within an organizational system which is a "living and open" system. Academics interested in information works and information practitioners alike have defined information systems in various ways but with basic ideas of people, information technology and procedures which enable the facilitation of the generation, use and transfer of information. Although information systems are considered to belong to an applied discipline, there is need for an understanding of their underlying basic concepts by information practitioners. The definition of information systems by Duff and Assad (1980) is considered to be adequate: "*a collection of people, procedures, a base of data and (sometimes) hardware and software that collects, processes, stores and communicates data for transaction processing at operational level and information to support Management decision making*". Certain deductions can be made from the above definition thus: The definition covers the what, how and why of information systems; An information system can be manual or computer-based; That information systems have existed in organizations and always will; That an information system is supposed to support both the basic operations of an organization and its management; A distinction seems to be made between data for transaction processing purposes and information for decision-making purposes; and The definition has provided what can be considered as basic concepts underlying information systems, namely: people, management, information, systems and organizations.

The attributes indicated above can be considered as major attributes or essential elements for developing an information system concept in an educational sector or other contexts. In order to understand the information system concept further, Salton (1975) highlighted the most important computer-based information systems as follows: Information retrieval system (IR); Question-answering system; Database system (DBS); Management information system (MIS); Decision support system (DSS).

**CONCEPT OF EDUCATION:** Education has been defined differently by different people who work as either educationists or curriculum planners. **Hornby (2000)** defines education as the process of training and instruction of young people and children in schools and colleges which is designed to give knowledge and develop skills. Education is a systematized process of facilitating learning or knowledge acquisition, Education means an aggregation of experiences geared towards socializing the young human being. Education implies the process of teaching and learning that culminates in helping the young ones or the learners acquire adequate; skills, expertise, knowledge, proficiencies, abilities and courage to be useful to his or her society **Kanno (1997)**. Education can be Formal, informal or semi-formal. **Nnachi (2015)** insists that education must aim at ensuring learning through effective teaching. **Mandah (2016)** wrote that education is like a wide umbrella comprising of; teaching, information, instruction and communication. He also intends that a well designed educational system must be split into smaller and simpler units who may be independent from the central unit but must work dependently with other sub-units to achieve set (organizational) Goal. In this case, the optimal Goal of education must be character molding or behavioral change. Education cannot achieve her goals without a well designed information and communication network; therefore, the education system should be organized in the light of MIS just as other organizations.

**THE CONCEPT OF INFORMATION MANAGEMENT:** Information System may be defined as a set of devices, procedures, and operating systems designed around user based criteria to produce information and communicate it to the user for planning, control and performance. Collation, store analysis and dissemination of information may be done manually or by the scientific use of machines. Information management has been defined as the

organization-wide capability of creating, maintaining, retrieving and making immediately available the right information, in the right place, at the right time, in hands of the right people, at the lowest cost, in the best media, for use in decision making (Langemo, 1980). In the same vein, Best (1988) defines information management as the economic, efficient and effective co-ordination of the production, control, storage and retrieval and dissemination of information from external and internal sources, in order to improve the performance of the organization. This definition is narrow in perspective in that it does not take care of managing the characteristics of information itself (content, ownership, representation and equality), irrespective of the storage medium, equipment that processes it and the system that employs it.

In summary, therefore, the key issue involved in information management is managing information in an organization using modern information technologies.

### **MANAGEMENT INFORMATION SYSTEMS (MIS) AS A CONCEPT.**

One approach by which organizations can utilize computing capability is through the development of MIS. There is no universally accepted definition of MIS and those that exist reflect the emphasis and perhaps prejudices of their authors.

However, the term “management information system” can be seen as a database management system tailored to the needs of managers or decision makers in an organization. MIS is a system using formalized procedures to provide management at all levels in all functions with appropriate information based on data from both internal and external sources, to enable them to make timely and effective decisions for planning, directing and controlling the activities for which they are responsible (Argyris, 1991).

It will be noted from the above definition that the emphasis is on the uses to which the information is put. Planning, directing and controlling are the essential ingredients for “management”. In essence, the processing of data into information and communicating the resulting information to the user is the key function of MIS. It should, therefore, be noted that MIS exist in organizations in order to help them achieve objectives, to plan and control their processes and operations, to help deal with uncertainty, and to help in adapting to change or, indeed, initiating change. The question one may then ask is: What are the management functions that MIS facilitates and what is the various decision levels at which management information can be put into use? It is through a thorough answer to this question that the importance of MIS in management can be realized, Mangal and Mangal (2009).

### **Characteristics of MIS**

David (1982) and Stone Cash (1981) observed a functional MIS to be able to play the following characters: **1. Systems Approach:** The information system follows a systems approach. Systems approach means taking a comprehensive view or a complete look at the interlocking sub-systems that operate within an organization. **2. Management Oriented:** Management oriented characteristic of MIS implies that the management actively directs the system development efforts. For planning of MIS, top-down approach should be followed. Top down approach suggests that the system development starts from the determination of management's needs and overall business objective. To ensure that the implementation of system's policies meet the specification of the system, continued review and participation of the manager is necessary.

**3. Need Based:** MIS design should be as per the information needs of managers at different levels. **4. Exception Based:** MIS should be developed on the exception based also, which means that in an abnormal situation, there should be immediate reporting about the exceptional situation to the decision-makers at the required level. **5. Future Oriented:** MIS should not merely provide past of historical information; rather it should provide information, on the basis of future projections on the actions to be initiated. **6. Integrated:** Integration is significant because of its ability to produce more meaningful information. Integration means taking a comprehensive view or looking at the complete picture of the interlocking subsystems that operate within the company. **7. Common Data Flow:** Common data flow includes avoiding duplication, combining

similar functions and simplifying operations wherever possible. The development of common data flow is an economically sound and logical concept, but it must be viewed from a practical angle. **8. Long Term Planning:** MIS is developed over relatively long periods. A heavy element of planning should be involved. **9. Sub System Concept:** The MIS should be viewed as a single entity, but it must be broken down into digestible sub-systems which are more meaningful.

**10. Central database:** In the MIS there should be common data base for whole system

## **COMPONENTS /RESOURCES OF INFORMATION SYSTEM.**

An information system depends on the resources of people, hardware, software, data and networks to perform input, processing, output, storage and control activities that convert data resources into information. IS consists of several major Components/ resources as observed by; Elliss (1986) and Langemo(1980).

**People resources:** People are the essential ingredient for the successful operation of all information systems. This people resource includes: **End users** are also called users or clients are people who use an information system or the information it produces. They can be customers, salespersons, engineers etc... Most of us are **IS end users**. **Information System specialists:** are people who develop and operate information system. They include system analysis, software developers, system operators and other managerial, technical and clerical IS personnel. **Hardware resources:** It includes all physical devices and materials used in information processing. Examples of hardware in computer based information system are:

**Computer system;** which consists of central processing units containing microprocessors and a variety of interconnected peripheral devices. Example: handheld, laptop, midrange computer systems and large mainframe computer systems. **Computer peripherals;** which are devices such as a keyboard or electronic mouse for input of data and commands a video screen or printer for output of information and magnetic or optical disks for storage of data resources.

**Software resources:** It includes all set of information processing instructions. It includes not only the set of operating instructions called programs. Examples are:**System software;** such as an operating system program which controls and supports the operations of computer system. **Application software;** which are programs that direct processing for a particular use of computers by end users. Example, students' enrolments' analysis program, a stall (academic and non-academic) remuneration program and a word processing system. **Data resources:** Data resources of information systems are typically organized, stored and accessed by a variety of data resources mgt technologies into: Database that hold processed and organized data. Knowledge bases the hold knowledge in variety of forms such as facts, rules, and case, Langemo (1980).

**Network resources:** Telecommunications technologies and networks like the internet, intranets and extranets. The concept of network resources emphasizes that communications technologies and networks are a fundamentals resource component of all information systems. Network resources include: **Communications media:** is includes twisted pairs wire, coaxial and fiber optic cables and microwave, cellular and satellite wireless technologies. **Network infrastructure:** this generic category emphasizes that many hardware, software and data technologies are needed to support the operation and use of a communication networks.

## **FUNCTIONS OF MIS IN EDUCATION.**

Objectives of MIS especially in the field of teaching and learning according to Achuonye (2004) include:

**1. Data Capturing:** MIS capture data from various internal and external sources of the school as an organization. Data capturing may be manual or through computer terminals. The data to be captured include; schools purchases, admission, student's enrolment, teachers/lecturers nominal roll, staff salaries, etc.

**2. Processing of Data:** The captured data is processed to convert into required information. Processing of data is done by such activities as calculating, sorting, classifying, and summarizing, which is vital to the effective functioning of any educational institution.

**3. Storage of Information:** MIS stores the processed or unprocessed data for future use. If any information is not immediately required, it is saved as an organization record, for later use. These may include; student's evaluation results, copies of students claimed certificates, aggregation of student's academic records for purpose of transcripts.

**4. Retrieval of Information:** MIS retrieves information from its stores as and when

Required by various lecturers, students or the school administration (users). A nice example is the case where students payment details, bank tellers, receipts and academic results gets missing owing to rubbery, fire outbreak or misplacements, it is the MIS that can retrieve such delicate information.

**5. Dissemination of Information:** Information, which is a finished product of MIS, is disseminated to the users in the organization. It is periodic or online through computer terminal. This could be seen in areas as on line publishing of student's results, admission list, payment requirements, matriculation and convocation dates and activities.

## **ROLE OF MANAGEMENT INFORMATION SYSTEM IN EDUCATION**

The role of the MIS in an organization can be compared to the role of heart in the body. The information is the blood and MIS is the heart. In the body the heart plays the role of supplying pure blood to all the elements of the body including the brain. The heart works faster and supplies more blood when needed. It regulates and controls the incoming impure blood, processes it and sends it to the destination in the quantity needed. It fulfills the needs of blood supply to human body in normal course and also in crisis. According to Belle and co. (2001), The MIS plays exactly the same role in the organization, thus;

- (1) The system ensures that an appropriate data is collected from the various sources, processed, and sent further to all the needy destinations.
- (2)The system is expected to fulfill the information needs of an individual, a group of individuals, the management functionaries: the managers and the top management.
- (3) The MIS satisfies the diverse needs through a variety of systems such as Query Systems, Analysis Systems, Modeling Systems and Decision Support Systems the MIS helps in Strategic Planning, Management Control, Operational Control and Transaction Processing.
- (4) The MIS helps the clerical personnel in the transaction processing and answers their queries on the data pertaining to the transaction, the status of a particular record and references on a variety of documents. The MIS helps the junior management personnel by providing the operational data for planning, scheduling and control, and helps them further in decision making at the operations level to correct an out of control situation.
- (5) The MIS helps the middle management in short them planning, target setting and controlling the business functions. It is supported by the use of the management tools of planning and control. The MIS helps the top management in goal setting, strategic planning and evolving the business plans and their implementation.
- (6) The MIS plays the role of information generation, communication, problem identification and helps in the process of decision making. The MIS, therefore, plays a vital role in the management, administration and operations of the school as an organization.
- (7)One of the mostly widely used bases for organizing activities in almost every educational institution is the business function, this is confirmed in the works of; Adedewoyin,(2002) Adeyanju (2000).

## **REQUIREMENTS OF MANAGEMENT INFORMATION SYSTEM IN EDUCATION.**

Information system includes four major resources: **hardware, software, people and data**. Let's briefly discuss some basic requirements and examples of how these resources contributes to the information processing activities of information system. **Hardware:** includes all physical devices. **Software:** includes all set of information processing instructions. **People:** people are required for the operation of all information systems, Best,(1988).

These human resources include specialists and end users; teachers, students as well as non teaching staff. **Data:** is the raw material of information systems. The concepts of data resources have been broadened by managers and information system professionals.

Similarly, Dike (2017) says that; management information systems in educational sector requires an adequate coverage in eight main areas of responsibility: information systems planning, organizational structures and staffing, data management, computing and data management architecture, information systems development, information technology acquisition, training, and technical support.

## **CHALLENGES OF MIS IN EDUCATION**

Information and data are essential components of a strong education system. Yet many countries struggle with related issues, from lack of quality and timely data to weak policies and data system architecture. Ciotea (2004) observed that; these barriers block data from being effectively used to monitor and improve education outcomes and have troubling implications for international education goals. There is a critical need for a tool that can either assess a country's existing EMIS or determine whether the country needs to establish a new system for the following reasons:

Data gaps prevent countries from conducting data-driven decision-making in education policy. Crucial data is often not available and available data is often hard to use. An EMIS at the country level should be the primary mechanism for systematically monitoring progress toward and fostering accountability for reaching these goals. In some countries, information systems do not exist at all or the indicators related to educational goals are not being tracked systematically.

In the Nigerian situation, Mandah (2016) critically observed that a key problem in the area of EMIS is the poor attitudinal culture of some Nigerians towards innovation and information dissemination, he also saw lack of steady electric power supply to be a technological cancer infesting the ICT era.‘

Nowduri and Dosary (2012) said that; these issues are global, limiting the ability of governments and the international community to monitor progress toward the achievement of learning for all.

Other challenges accrued to use of MIS include the following:

1. Lack of management involvement with the design of the MIS;
2. Narrow or inappropriate emphasis of the computer system;
3. Undue concentration on low-level data processing applications particularly in the accounting area;
4. Poor appreciation by information specialists of management's true information requirements and of organizational problems; and
5. Lack of top management support.

## **CRITERIA FOR EFFECTIVE EDUCATION MANAGEMENT INFORMATION SYSTEMS**

The EMIS tool examines policy intent and the degree to which intended policies are effectively implemented on the ground. Intent refers to the way in which an EMIS and its overarching purpose are articulated by decision-makers and documented in policies and legislation, as well as standards and strategy documents. Assessing intent alone reveals only part of the picture. As such, the EMIS assessment also evaluates policy execution. Implementation refers to the degree to which policy intentions take place during the day-to-day activities of stakeholders at all levels of the education system. Based on extensive research and global evidence, the criteria for effective education management information systems according to Dike (2017 and Nnachi 2015) are: **Enabling environment:** The enabling environment consists of the legal framework; organizational structure; and institutionalized processes, human resources, infrastructural capacity, and budget of the system. This includes both the laws and the policies surrounding an EMIS. In essence, this policy area is the context in which an EMIS exists.

**System soundness.** In a sound system the processes and structures of the EMIS support the components of an integrated system. Education data are therefore sourced from different institutions and all data feed into and comprise the EMIS. Databases within an EMIS should not be viewed as separate databases, but as part of the EMIS. Key aspects of system soundness include what data are covered in EMIS and how they come together in the overarching system.

**Quality data.** The processes for collecting, saving, producing, and utilizing information should ensure accuracy; security; and high-quality, timely, and reliable information for use in decision-making. Data quality is a multidimensional concept that encompasses more than just the underlying accuracy of the statistics produced. It means that data is not only accurate, but serves specific needs in a timely fashion.

**Utilization for decision-making.** An EMIS needs to be used across the whole education system to make decisions so that measures can be taken to improve educational quality. Accurate information on education sector performance enables the design of more informed policies and programs. It is imperative to understand where decision-making occurs, if the capacity to analyze and interpret education data exists, and if specific data is available to inform decision, Obrien and Marakas (2007).

## **IMPORTANCE OF EDUCATION MANAGEMENT**

Helping to improve education systems: Assessing the state of education in a country requires information about the inputs, resources, governance, operations, and outcomes of its education system through reliable, relevant, and easily accessible information, Alipoor,(2013).

MISE brings education policymakers and stakeholders closer to this level of system knowledge and insight in several ways by: providing a comprehensive framework based on a thorough review of global evidence that presents international best practices in MISE as well as a methodology to evaluate an MISR through the critical policy areas, aiding countries in analyzing their education systems through diagnosis, dialogue, and reform. Enhancing the global knowledge based on effective MISE policies. Involving key system leaders and stakeholders in identifying reform priorities, Argyris,(1991).

The significance of management information system also includes according to Patterson (2005) also include: Meeting global challenges, Capturing opportunities in marketplace, Supporting corporate strategy, Linking departments whose functions are different, Enhancing worker productivity Increase in quality of goods and services.

As a matter of fact, an MIS is a special-purpose system useful for management in an organization. MIS is an accessible and rapid conveyor belt for appropriate high quality information from its generation to its users. The heart of an effective MIS, therefore, is a carefully conceived, designed and executed database. Its level corresponds to adaptive decisions,

David (1982) and Stone Cash (1981).

The MIS era has eventually contributed a new level of needed management information. The increasing interest in MIS had led to much activity in developing techniques and software for data management. However, it should be noted that the new thrust in MIS is on the uses to which the information is put and not how it is processed. Shim, (2000) insists that “management get things done through people,” by using relevant information retrieved from MIS. The efficient performance of an organization is dependent very much on the internal performance of the organization’s resources (Kempner, 1976)). Every aspect of management in the modern age relies heavily on information to function. Nothing moves without information and it is generally believed that information is power and that he who has it has power.

### **MANUAL VERSUS COMPUTER BASED MIS**

**The manual based MIS:** it is solely dependent on the strength and capacity of the different human and non scientific activities in gathering, storing, and dissemination of information. It performs such tasks as; hand writing, paper and pen calculations, using human agents or medium in sending or delivering written letters and other vital missives, Best (1988).

Manual (Informal) Information System: is an employee based system designed to meet personal and vocational needs and to help in the solution of work-related problems. It also funnels information upward through indirect channels. It works within the framework of the business and its stated policies. In the educational institutions, it works with educational policies and curriculum. Mass(1982), explained, thus; Manual based MIS does not necessarily require machines, mobile phones, computers and electronic media for information processing. Adedewoyin,(2002) and Adeyanju(2000) observed; In a manual based MIS hardware materials are predominant, such materials as; paper file jackets, manual typewriters, manual (paper) library, handwritten letter and other correspondences, storing files in shelves and rackets. It also involved and includes saving some delicate files containing life important information in a place called ‘**the strong room**’.

Patterson (2005) observed that; some of the many disadvantages of manual based MIS are: the information may be lost at any time owing to the fact that all were saved as hardware materials, in the case of fire or flooding such information is lost, thieves and criminals can have easy access to the offices where the files are stored. In the case of accident or death of the file possessor, no other person can relocate the information, Salton, (1975), at any point when the human being in possession of the information fell sick or eventually dies, such information may as well die. It is funny to imagine the volume of files and information that each office can accommodate compared to the volume of information saved in a tiny flash disc. It would as well be too cumbersome trying to mark and record the examination scores of all the undergraduate students of IAUE manually.

However, we observed that in some instances, manual based MIS can be used to save cost and in areas where the people in charge of the offices are not computer literate so to be able to save the information, manual method could be used.

**Computer Based Information System (CBIS):** as Nigerian students, we are used to the term “CBT-TEST” which means Computer based test, it a typical sample of a computer based information system. This category of information system depends mainly on the computer for handling business application. System analysis develops different types of information system to meet variety of business needs. Kempner, (1976) observed that; there is a class of system known collectively as computer based information system. They are categorized in the following six classes:i) Transaction Processing System (TPS), ii) Management Information System (MIS)

iii) Decision Support System (DSS), iv) Executive Support System (ESS), v) Office Automation Systems (OASs), and vi) Business Expert Systems (BESs) and computers, Eze Rock (2012).

**Computer Based MIS** is the current era of Management Information Systems, where ICT and computers are the bedrock.

Management information systems are a kind of computer information systems that could collect and process information from different sources in institute decision-making in level of management. Management information systems Provide information in the form of pre specified reports and displays to support business decision making. The next level in the organizational hierarchy is occupied by low level managers and supervisors. This level contains computer systems that are intended to assist operational management in monitoring and controlling the transaction processing activities that occur at clerical level. Management information systems (MIS) use the data collected by the TPS to provide supervisors with the necessary control reports According to Dike (2017) management information system is type of information systems that take internal data from the system and summarized it to meaningful and useful forms as management reports to use it to support management activities and decision making.

## **CONCLUSION/ RECOMMENDATIONS**

In this work, attempts have been made to examine the Management Information System in Education, its problems and importance in an organizational setting. One may conclude that MIS is the lifeblood of any organization. Both public and private sectors must be committed to seeking formal or organized information before taking decisions.

Management problems will be provided with specific answers through computer simulations and gaming techniques. Today's managers must be careful, as they can become outdated with only marginally relevant facts rather than be presented with concrete and absolutely useful information. This situation can be avoided where a virile and functional MIS unit is put in place. In an educational institution, the school is seen as an organization whose information about: teachers, land and buildings, students and non-teaching staff, all academic records as well as out of class events must be adequately recorded, kept, and disseminated when necessary.

therefore it is the recommendation of the writers of this paper that all schools should adopt the computer based Management Information System for a more competent academic outcome and to be in line with the world best educational practices with regards to ICT.

## **REFERENCES**

1. Achuonye, K.A. (2004) *Contemporary Educational Technology*, Portharcourt, Pearl Publishers.
2. Adedewoyin, J.A. (2002) *Introduction to educational Technology*. Lagos: Johns and Lad publishers LTD.
3. Adeyanju,J.L.(2000). *Basic Concepts in Educational Technology*. Ile-Ife, Oluwa Publishing Co.
4. Alipoor ,H. (2013). Role of Management Information Systems ( MIS ) in Decision-Making and Problems of its Implementation, Universal Journal of Management and Social Sciences ,Vol. 3, No.3,pp. 78–89.
5. Argyris, C. (1991), “Management information systems: the challenge to rationality and emotionality”, *Management Science*, p. 291.
6. Belle, J-P.V., and Eccles ,M.G., and Nash ,J.M. (2001) Discovering Information Systems.
7. Best, D.P. (1988), “The future of information management”, *International Journal of Information Management*, Vol. 8 No. 1, March, pp. 13-24.
8. Buckland, M. K. (1991). Information as thing. *Journal of the American Society for Information Science*, 42(5), 351-360. doi:10.1002/(SICI)1097-4571(199105)42:5<351::AID-ASI4>3.0.CO;2-7

9. Chen, Y. (2020). Information Systems: Fundamentals, Concepts, and Applications. Oxford University Press.
10. Ciortea ,M. (2004). Aspects Regarding The Types of Process Control Systems, International Conference on Theory and Applications of Mathematics and Informatics, pp.90–95.
11. Daniel, E. (1982), “1980s forecast: special librarian to information manager”, *Special Libraries*, Vol. 73 No. 2, pp. 64-72.
12. Dike, H. I. (2017), *a modern textbook of educational technology with chapters on digital audio-visuals and online learning*, port Harcourt, copic publishers.
13. Duff, W.M. and Asad, M.C. (1980), *Information Management: An Executive Approach*, Oxford University Press, London, p. 243.
14. Ellis, D. (1986), “Information management and information work”, *International Journal of Information Management*, Vol. 6 No. 2, pp. 15-26.
15. Eze Rock. (2014) *Educational Technology; theory and practice*, Okigwe, landline publishers.
16. Foster, N. (2004). A concept of information. In D. C. Westerlund (Ed.), *Information and Knowledge Management* (pp. 1-13). Hershey, PA: Idea Group.
17. Henderson, J. C., & Venkatraman, N. (1993). Strategic alignment: Leveraging information technology for transforming organizations. *IBM systems journal*, 32(1), 4–16.
18. Hornby, A. S. (2000) *Oxford advanced learners dictionary*. New York, oxford university press.
19. Horton, F.W., Hasan, Y., Shamsuddin, A., and Aziati ,N. (2013), The Impact of Management Information. In Kempner, T. (1976), *Handbook of Management*, Penguin, Harmondsworth, p. 216.
20. Khanore ,S., and Patil ,R., and Dand,H. (2011) *management information system*, Institute of Distance and Open Learning , University of Mumbai.
21. Langemo, M. (1980), “Records management/word processing – a needed team effort”, *Records Management Quarterly*, Vol. 14 No. 4, pp. 10-14.
22. Laudon, K. and Laudon, J. (2006) *Management Information Systems: Managing the Digital Firm*, 9th ed. Prentice Hall.
23. Mandah, N. N. S. (2016) *Issues in educational Technology*, Portharcourt, EmmanestVeentures Publications.
24. Mangal, S. K. and Mangal, U. (2009) *Essentials of Educational Technology*: Newdelhi, phi learning private limited.
25. Marrchard, D. (Eds), *Information Management in Public Administration*, Information Resources Press, Arlington, VA, pp. 170-84. Heidarkhani, A., & khomami ,A.A, & Jahanbazi ,Q., and Co.
26. Mass, R. (1982), “Records, words, data ... whatever you call, it’s still information – Part 1”, *Information and Records Management*, Vol. 16 No. 6, pp. 18-20.
27. Nowduri1, S., and Al-Dossary ,S. (2012). Management Information Systems and Its Support to Sustainable Small and Medium Enterprises International Journal of Business and Management; Vol. 7, No. 19, pp. 125–131.
28. O’Brien, J.A., & Marakas, G.M. (2007) Management information systems -10th ed., by McGraw-Hill/Irwin, a buunit of The McGraw-Hill Companies.
29. Okunamiri (2010), *educational administration; theory and practice*, Abia, ABSU publications

30. Patterson, A. (2005) Information Systems - Using Information, Learning and Teaching Scotland.
31. Salton, G. (1975), *Dynamic Information and Library Processing*, Prentice-Hall International, London, p. 523.
32. Shim ,J.K. (2000) Information Systems and Technology for the Non-information Systems Executive, by CRC Press LLC.
33. Stonecash, J.C. (1981), "The IRM showdown", *Infosystem*, Vol. 28 No. 10, pp. 42-8.
34. Zoikoczy, P. (1981), *Information Technology: An Introduction*, Pitman, London, p. 157.